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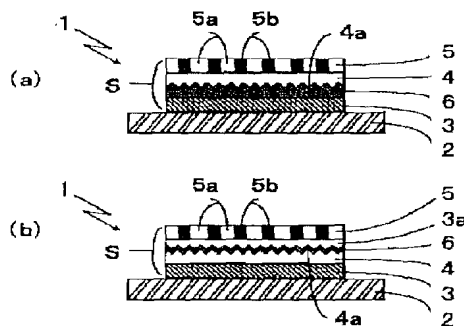
(54) **GENUINENESS IDENTIFYING BODY,
INFORMATION RECORDING MEDIUM HAVING
THE SAME AND ARTICLE**

(57) Abstract:

PROBLEM TO BE SOLVED: To avert the possibility that hologram seals, etc., are forged by a person which has illicit intention and learns a manufacturing technique by additional complexity or the difficulty in manufacture to the hologram seals, etc., and to eliminate the probability that the display contents thereof are legible depending upon angles.

SOLUTION: The genuineness identifying body S which is formed by laminating a light diffraction structure layer 4 on the under surface of a latent image sheet 5 consisting of ≤ 2 regions varying in phase differences and having latent image patterns visible through a polarizing plate and further laminating a light reflective layer 6 on the under surface is preferably applied to an adherend 2 through an adhesive layer 3.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to a bona-fides identification body suitable for it being difficult to find the check method of bona fides, it processing the gestalt of a label etc., sticking on various ID cards, high ticket items, etc., and identifying bona fides from appearance. This invention relates to the information recording medium which stuck and applied the above-mentioned bona-fides identification body to the card for deposits and savings, an ID card like a credit card, or other information recording media, for example again. This invention relates to the article which stuck and applied the above-mentioned bona-fides identification body to the goods in which high ticket items and unjust reproduction are easy to be performed further again.

[0002]

[Description of the Prior Art]In the information recording medium on which information was recorded, like the card for (1) deposits and savings, or a credit card, There is a thing with various value, such as a thing which has worth of the amount of money indicated like what produces pocketbook value by use, (2) bills, a security, or a gift certificate, or a thing which has the value decided on speculation like (3) stock certificates.

[0003]The alteration which the above information recording media use what should be discarded by the forgery which manufactures these by unjust intention, a genuine article, or used since it has economical value directly or indirectly, makes, and changes does not sever the back.

[0004]As a measure, the special paper of entering [space] is used in a bill etc., and performing printing by the printing method using a sculpture intaglio and the ink of special preparation which imitation cannot carry out easily is performed. Printing which applied to the bill correspondingly also about the stock certificate, the security, or the gift certificate using the general-purpose printing method is performed. About cards, such as a card for deposits and savings, or a credit card, in order to record the electronic intelligence which is not visible to eyes into a magnetic stripe, it is hard to forge only with a visual element, but in addition, the difficult hologram seal of manufacture, etc. were stuck, and forgery is prevented.

[0005]Among these, the hologram seal is well used in order to accompany making the hologram image itself by technical difficulty on a device, and to guarantee the bona fides of the subject to stick. In a hologram seal, in the meaning which prevents the diversion to other subjects. The adhesives for sticking on a subject and the raw material of the hologram seal itself are examined, and if it tries to remove the hologram seal once stuck on the subject, the device that a hologram seal is destroyed or the removed marks remain is also performed partly. However, also although it is called a hologram seal, even if the principle itself is known well and production technology is an altitude, since it may be forged by the acquisition, much more complexity or the difficulty of manufacture is requested from the hologram seal by it.

[0006]The method of presentation which visualizes the pattern via a polarizing plate apart from this by the field from which phase contrast was made different using the phase difference film in which patterns, such as a character, a mark, a pattern, or a pattern, were formed is known (JP,9-81062,A). While this method has a big advantage which can be performed only by the method of visualizing preparing a polarizing plate, even if it does not have a polarizing plate depending on the angle which a phase difference film can use independently and regards as *****, display information may be able to be deciphered, and there is a fault which cannot conceal display information thoroughly. Since a film changes selectively or a surface state changes especially when the methods from which phase contrast is made different are heating and grant of drugs, it is still more so.

[0007]

[Problem(s) to be Solved by the Invention]Therefore, the thing a hologram seal etc. give and avoid [thing] the point which may be forged by acquisition of the production technology of a person with an unjust intention for much more complexity or the difficulty of manufacture in this invention, And when you use a phase difference film, let it be a technical problem to cancel the point which the display information may be able to decipher with an angle.

[0008]

[Means for Solving the Problem]In this invention, the above-mentioned technical problem was able to be canceled by using in piles a picture which optical diffraction structure objects, such as a hologram seal, bring about, and a pattern of a phase difference film.

[0009]The 1st invention consists of two or more fields where phase contrast differs, and relates to a bona-fides identification body, wherein a latent image pattern which can be recognized visually, and optical diffraction structure have piled up via a polarizing plate. The 2nd invention relates to a bona-fides identification body having piled up by forming said optical diffraction structure in one side of a latent image layer in which said latent image pattern and said optical diffraction structure have said latent image pattern in the 1st invention. In the 2nd invention, said optical diffraction structure is formed in a back side surface of said latent image layer, and the 3rd invention relates to a bona-fides identification body, wherein an optical reflex layer is laminated further. In the 2nd invention, said optical diffraction structure is formed in the front side of said latent image layer, and the 4th invention relates to a bona-fides identification body, wherein an optical reflex layer is further laminated by back side surface of said latent image layer. The 5th invention relates to a bona-fides identification body having piled up by laminating a latent image layer in which said latent image pattern and said optical diffraction structure have said latent image pattern, and an optical diffraction structure layer which has said optical diffraction structure in the 1st invention. The 6th invention relates to a bona-fides identification body, wherein said latent image layer, said optical diffraction structure layer which has said optical diffraction structure in a back side surface, and an optical reflex layer are laminated by this order from the front side in the 5th invention. The 7th invention relates to a bona-fides identification body, wherein said latent image layer, an optical reflex layer, and said optical diffraction structure layer that has said optical diffraction structure in the front side are laminated by this order from the front side in the 5th invention. The 8th invention relates to a bona-fides identification body, wherein an adhesives layer is laminated by back side surface in the 1st – the 7th one of inventions. The 9th invention relates to a bona-fides identification body, wherein a protective layer is laminated by the front side in the 1st – the 8th one of inventions. the 10th invention -- a claim -- it is related with an identifiable information recording medium of bona fides having a bona-fides identification body of a statement one to 9 either in some information-recording-medium substrates with which information was recorded. the 11th invention -- a claim -- it is related with an identifiable article of bona fides characterized by having a bona-fides identification body of a statement on a part of surface of an article one to 9 either.

[0010]

[Embodiment of the Invention]Each of drawing 1 and drawing 2 is the typical sectional views showing the state where the bona-fides identification body S of this invention was stuck on the adherend 2. In drawing 1 and drawing 2, although it states in detail later, the adherend 2 may be various ID cards, high ticket items, etc., and if they are in the latter, it may be the box, a case, or a bag, for example.

[0011]Two kinds of zones 5a where the bona-fides identification body S in drawing 1 (a) differs in the phase contrast of light, To and the undersurface side of the latent image layer 5 which has the latent image patterns (for example, a character, a sign, etc.) by 5b. It has the unevenness 4a of optical diffraction structure (for example, a hologram and a diffraction grating), and has the structure where the optical reflex layer 6 was laminated by the undersurface which has the unevenness 4a further, and the undersurface of the optical reflex layer 6 is laminated with the adherend 2 via the adhesives layer 3.

[0012]The bona-fides identification body S in drawing 1 (b) has the unevenness 4a of optical diffraction structure on the upper surface of the latent image layer 5, it has the structure where the optical reflex layer 6 was further laminated by the undersurface of the latent image layer 5, and the undersurface of the optical reflex layer 6 is laminated with the adherend 2 via the adhesives layer 3.

[0013]Also in which above bona-fides identification body S, since it is formed in the layer with same latent image pattern and optical diffraction structure and is really indivisible, the duplicate in an unjust intention is difficult.

[0014]The bona-fides identification body S shown in drawing 1 (a) and (b) can all develop the latent image which the latent image layer 5 has by a method as shown in drawing 3. In drawing 3 (a), the bona-fides identification

body S stuck on the adherend 2 has pattern P_4 by optical diffraction structure, and latent image pattern P_5 (L) which the latent image layer 5 has. Although the dashed line has shown latent image pattern P_5 (L), it is that pattern P_4 by optical diffraction structure can only be seen, and latent image pattern P_5 (L) does not look actual to eyes.

[0015] Then, as an arrow shows, the polarizing plate 7 shown in the upper right in drawing 3 (a), If it is made to move onto the bona-fides identification body S, as shown in drawing 3 (b), in addition to pattern P_4 by optical diffraction structure, pattern P_5 (D) by which latent image pattern P_5 (L) which the latent image layer 5 has by existence of this polarizing plate 7 was developed can be seen.

[0016] By the way, as explanation of conventional technology was described, when using alone the phase difference film (a latent image layer corresponds on these specifications.) which has formed the pattern by the field from which phase contrast was made different, even if there is no polarizing plate depending on the angle to see, there is a fault which can decipher display information.

[0017] In this invention, that this fault should be avoided, optical diffraction structure has put on the latent image layer, and if it is a hologram, it is a hologram image and a diffraction grating and it is an interference color and a diffraction grating pattern, that pattern has piled up. Even if there is no polarizing plate in a latent image layer independent case, a latent image pattern is mixed with those interference colors and patterns, and it becomes impossible to see by doing in this way that a latent image pattern is very indistinct but by optical diffraction structure's piling up and adding that it was visible.

[0018] In the example shown in drawing 1 (a) and (b), although the latent image layer 5 had optical diffraction structure (for example, hologram) directly, as it is indicated in drawing 2 as the latent image layer 5 and optical diffraction structure, it may form as another layer mutually. When the latent image layer 5 and optical diffraction structure are piled up as another layer, it becomes impossible thus, to see a latent image pattern.

[0019] In the bona-fides identification body S shown in drawing 2, although it has the latent image layer 5 with a latent image pattern similarly in drawing 1, However, by latent image layer 5 itself not having unevenness of optical diffraction structure, etc. directly, and laminating it with the lower layer optical diffraction structure layer 4, the bona-fides identification body S is constituted and the undersurface side of the bona-fides identification body S is laminated with the adherend 2 via the adhesives layer 3.

[0020] In this case, as shown in drawing 2 (a), the optical diffraction structure layer 4 to the undersurface side. [whether the optical reflex layer 6 is laminated by the undersurface which has the unevenness 4a of optical diffraction structure (for example, a hologram and a diffraction grating) and has the unevenness 4a further, and] Or as shown in drawing 2 (b), it has the unevenness 4a in the upper surface side, and the optical reflex layer 6 is further laminated along with the unevenness 4a. The adhesives 3a are laminated between the optical reflex layer 6 and the latent image layer 5.

[0021] The latent image which the latent image layer 5 has can be developed and seen by passing a polarizing plate the same with having explained the bona-fides identification body S which already shows drawing 1 the bona-fides identification body S shown in drawing 2 (a) and (b).

[0022] The latent image layer 5 consists of two or more fields by the molecular orientation degrees in polymers differing selectively where phase contrast differs, and the latent image pattern is formed by designing two or more [these] fields artificially.

[0023] In the portion which heated the oriented film selectively and was heated so that the oriented film of an uniaxial stretched film or a biaxially oriented film might be prepared and it might become more than the glass transition temperature, for example, in order to change a molecular orientation degree, An oriented film is dissolved in the method of reducing a molecular orientation degree, or an oriented film, Or it can carry out by the method of reducing a molecular orientation degree in the portion to which the drug solution to swell, for example, an organic solvent, was selectively made with **, it was applied, and the drug solution was applied etc., and these methods may be used together.

[0024] As a plastic of the raw material of the high polymer film which constitutes the latent image layer 5, Polyethylene resin, polypropylene resin, polymethylpentene resin, Polyvinyl chloride resin, polyvinylidene chloride resin, polyvinyl alcohol resin, VCM/PVC vinyl acetate copolymerization resin, ethylene-vinyl acetate copolymerization resin, Ethylene-vinyl alcohol copolymerization resin, polyethylene terephthalate resin, Polybutyrene terephthalate resin, polyethylenenaphthalate isophthalate copolymerization resin, Polymethyl methacrylate resin, ethyl polymethacrylate resin, polybutyl acrylate resin, Polyamide resin, cellulose triacetate

resin, cellophane, polystyrene resin, polycarbonate resin, polyarylate resin, polyimide resin, or polysulfone resin represented with nylon 6 or Nylon 66 can be used, and the liquid crystal film which consists of liquid crystal polymers can also be used.

[0025]It may be colored as long as it has the permeability of not only a water-white thing but light as a high polymer film which constitutes the latent image layer 5. The latent image layer 5 may comprise a coat made by dissolving not only with the film formed [that the above-mentioned plastic fuses and is extruded etc. and] but with a solvent, and applying.

[0026]As a heating method for changing a molecular orientation degree, the thermal head of a heat stylus and a thermal printer, heat pressing, infrared rays, a laser beam, induction heating, etc. can be used. It heats to predetermined pattern state using a mask, a template, etc. if needed.

[0027]When making partial the drug solution which dissolves or swells the oriented film of the above-mentioned raw material, for example, an organic solvent, with ** in order to change a molecular orientation degree, the organic solvent solution of the organic solvent selected according to the raw material of a high polymer film and resin, etc. can be used. The invention of various kinds of coating methods using a mask or a predetermined pattern is good to remove a drug solution, after it applies a drug solution to predetermined pattern state and the extension film part dissolution or swelling progresses with printing and the ink jet which can be formed. A drug solution may be applied in the meaning which promotes the dissolution or swelling, heating an oriented film, or the heated drug solution may be applied.

[0028]By any above-mentioned method, with the temperature of heating, time, or some of quantity of heat to give. According to or a difference of the kind of drug solution, a dosage, valid time, or application temperatures. Can form the field where the molecular orientation degrees of two or more differ, therefore it is only extended, and The portion (A) of a request, And it not only forms a latent image pattern in the field which is two kinds of portions (B) to which the molecular orientation degree fell by heating or application of the drug solution, but, The portion to which it was only extended and the molecular orientation degree fell from the portion (A) by the portion (A) of a request, and heating and application of a drug solution (B1), and a molecular orientation degree also being able to form a latent image pattern in three kinds of fields with the portion (B-2) which fell rather than the portion (B1), and the kind of portion to which the molecular orientation degree fell rather than the oriented film also being increased further, thus, The latent image pattern which consists of two or more fields where phase contrast differs can be formed.

[0029]As a pattern of the latent image pattern which consists of two or more fields where phase contrast differs, what kind of thing may be used for a character, a figure, a sign, a pattern, a pattern, photographs, or these combination. Although formed as a latent image, if the pattern of these patterns itself is precise, they can have much more forgery prevention effect, and are preferred.

[0030]In the mode which quoted and explained drawing 1 and drawing 2, optical diffraction structure is formed as detailed unevenness. Formation of unevenness of optical diffraction structure by the common pressing method which uses the lithography type uneven type which copied unevenness of optical diffraction structure with plating etc., or the roll press method using a rolled form uneven type. the latent image layer 5 -- or the layer of resin for forming the optical diffraction structure layer mentioned later can be made to be able to contact, can be heated and pressurized, and an uneven type can be performed in it. If that in which optical diffraction structure was formed as detailed unevenness is a hologram, it is a relief type hologram, but. May be an Lippman-type hologram and in this case From the upper surface side to an Lippman-type hologram layer. In a latent image layer and an optical reflex layer, adherend, the laminated bona-fides identification body of structure or a latent image layer, an Lippman-type hologram layer, and an optical reflex layer can consider it as adherend and the laminated bona-fides identification body of structure via an adhesives layer via an adhesives layer.

[0031]When the interference fringe of the optical diffraction structure of a diffraction grating or a hologram is recorded on the surface of the latent image layer 5 or the layer of resin as detailed unevenness, As shown in drawing 1 or drawing 2, it is preferred by laminating the optical reflex layer 6 to make it the phase of the catoptric light in the upper surface of the optical reflex layer 6 reverse 180 degrees with the phase of incident light on this invention.

[0032]When forming the optical reflex layer 6 with a metal thin film, Cr, Fe, Co, nickel, It is independent, or metal, such as Cu, Ag, Au, germanium, aluminum, Mg, Sb, Pb, Cd, Bi, Sn, Se, In, Ga, or Rb, those oxides, or those nitrides are combined and formed. Especially among these, aluminum, Cr, nickel, Ag, or Au is preferred. When forming an optical reflex layer with a metal thin film, it is based on thin-film-forming methods, such as a vacuum deposition method, sputtering process, and the ion plating method.

[0033]The usual thing can be used as the polarizing plate 7 at the time of explaining using drawing 3. For example, the thing which processed and extended the film of hydrophilic giant molecules like polyvinyl alcohol resin by dichromatic dye like iodine, The film of a plastic like polyvinyl chloride resin could be processed, orientation of the polyene may be carried out, and what protected and sealed the rear surface by another high polymer film may be sufficient as these. What is called a linear polarization plate or a circular light board may be sufficient as the polarizing plate 7.

[0034]When using the above-mentioned polarizing plate 7, place in piles on the bona-fides identification body S, and also. It is good also by the way arranged to a sliding direction without opening an interval for the polarizing plate 7 from a surface plate, fixing to a surface plate and parallel, placing the bona-fides identification body S which should confirm a latent image pattern on a surface plate, and piling up the polarizing plate 7 and the bona-fides identification body S. Or a latent image pattern may be checked, moving the polarizing plate 7 for the upper part which has put the bona-fides identification body S in order.

[0035]The optical diffraction structure layer 4 which is layer with the another latent image layer 5 is formed in the layer of resin which is listed to the next. Specifically Polyvinyl chloride, an acrylic resin (an example, PMMA), polystyrene, Thermoplastics, such as polycarbonate, unsaturated polyester, melamine, Epoxy, polyester (meta) acrylate, urethane (meta) acrylate, Epoxy (meta) acrylate, polyether (meta) acrylate, Polyol (meta) acrylate, melamine (meta) acrylate, Can mix and use thermosetting resin, such as triazine series acrylate, respectively, and independence or the above-mentioned thermoplastics, and thermosetting resin further, The thermoforming nature substance which has a radical polymerization nature unsaturation group, or the thing which added the radical polymerization nature unsaturated monomer to these, and was made into ionizing radiation hardenability can be used. In addition, photosensitive materials, such as a silver salt, dichromated gelatin, thermo plastics, diazo light-sensitive material, photoresist, a ferroelectric, photochromics material, thermostat clo mix material, and chalcogens glass, etc. can be used.

[0036]Formation of the optical diffraction structure to the layer of the above-mentioned resin can be formed by the method of the conventional known using the above-mentioned material. In recording the interference fringe of a diffraction grating or a hologram as relief of surface unevenness, A diffraction grating and an interference fringe can reproduce the irregular pattern of the original edition for said original edition by [of a heating roller etc.] carrying out heat crimping of both by a means suitably in piles on the above-mentioned resin layer, using the original edition recorded in the concavo-convex form as a press die. When using a photopolymer, after coating a photopolymer similarly on the protective layer of said lamination layer sheet, said original edition can be reproduced by irradiating with a laser beam in piles.

[0037]Forming the layer of the above-mentioned resin with ** etc. on a proper substrate, an optical diffraction structure layer becomes with a substrate then. The latent image layer 5 can also be used as this substrate. The above-mentioned resin layer is formed on temporary temporary substrates, such as a film, eventually, it exfoliates and the film can also be used as the optical diffraction structure layer of only a resin layer as a result.

[0038]The filler may be added in the optical diffraction structure layer 4. As a bulking agent, calcium carbonate, talc, China clay, kaolin, Micro silica, TiO_2 , a glass flake, asbestos, Since the resin layer which added 80 to 200 mass part and formed inorganic powder to resin 100 mass part becomes weak, agalmatolite powder, silica rock powder (silica flour), barium sulfate, SHIERUBEN, SHIAMOTTO, etc., A resin layer will be destroyed, if it tries to remove after sticking on adherend what once contained such a resin layer. Unjust exfoliation and the diversion to other adherends can be prevented using this.

[0039]It may be usable, and as a pattern of the hologram which is optical diffraction structure, or a diffraction grating, conventionally, various things may be the same patterns as what is used in this field, and what kind of pattern may be sufficient as them. The pattern itself asks for a hologram diffraction grating by calculation in addition to photography of thing, or, From the two-dimensional or three-dimensional image data obtained from the digital image incorporated with the digital camera, or computer graphics, it can create by proper means, such as holographic stereogram art.

[0040]However, the pattern of a hologram or a diffraction grating, Since it also has a role with which the visibility of a latent image pattern is reduced by lapping with a latent image pattern in the bona-fides identification body S of this invention like the conventional hologram label besides having the meaning of forgery prevention and bona-fides discernment, are based also on combination with a latent image pattern, but. The high thing of matching nature with a latent image pattern is preferred. In this meaning, conditions desirable as a pattern of the hologram

which is optical diffraction structure, or a diffraction grating, It is more preferred that the contrast of (2) patterns with high brightness of (1) pattern carries out the neighborhood of the thickness of the line in high (3) patterns and the size of the element pattern in which a pattern is constituted as compared with a latent image pattern, to lessen (4) space parts as much as possible, etc.

[0041]As adherend to which the bona-fides identification body S of this invention is applied, although it is not deposits-and-savings cards, such as the card for ID (personal identification), for example, a bank etc., a credit card, an identification card (a student identification card or an employee ID card), and card format, there are an admission ticket to an examination, a passport, etc. which are the objects for ID. If deposits-and-savings cards, such as a bank, or a credit card is used unjustly, damage will be inflicted on a just holder (or contractor) and a correspondent financial institution, a store, a credit company, etc.

[0042]The bona-fides identification body S of this invention is applicable to a bill, a gift certificate, a stock certificate, or a security. If these are used unjustly, they will induce the loss based on a face amount and value speculative occasionally. The bona-fides identification body S of this invention is applicable also to what shows security of a driver's license, a card shape bond, for example, fire prevention, disinfection, or fire prevention, sanitary qualification, or a grade. Although these prevent those who are originally disqualified from involving, by unjust use, danger may be caused or they may lead to a crime. Since a betting ticket, ****, etc., such as public lottery, a horse race, a cycle race, are equipped with a monetary value in the ticket of a hit after the end of a game and forgery and alteration lead to fraudulent practice, application of the bona-fides identification body S of this invention is effective in those prevention.

[0043]In addition to these, the bona-fides identification body S of this invention is applicable to boxes, such as a high-class wrist watch, a jewel, the precious metals, or a curio, a case, or a bag by pasting etc. using the difficulty of the manufacture and the privacy of a verifying means being high. If reproduced unjustly, without the reproduction on which the magnetic recording medium or the optical recording medium was made to record software, such as a music title, image software, computer software, or game software, also receiving regular copyright consent, The pecuniary loss of owner-of-a-copyright and publication origin to wear is large, and can apply the bona-fides identification body S of this invention to such a recording medium, its box, or a case.

[0044]As described above, the bona-fides identification body S of this invention can be applied to various uses, and the shape of adherend and its raw material are also various. Therefore, as explained by already performing a graphic display, it is preferred [the bona-fides identification body S] that it is a gestalt of the label for attachment which has an adhesives layer, or is a transfer sheet for transfer so that a latent image pattern and optical diffraction structure not only piled up, but it can apply to various uses. Adherend may be a transparent thing, without restricting to an opaque thing.

[0045]When the bona-fides identification body of this invention is formed in label shape, one which constitutes a label of layers is used as the layer with weak tensile strength, and when it tries to remove, it is good also as a brittle label destroyed from the layer. Or if it tries to remove the label which changed the adhesive strength of a label body and an adhesives layer selectively, and was once stuck, If a part of adhesives layer remains on adherend and it tries to stick the label of the removed direction on another adherend (mostly) It is an unjust intention in many cases. Since a part of adhesives layer is missing, it may constitute so that the heterogeneity of the adhesives layer at the time of unevenness by the existence of smooth attachment not only not being performed but an adhesives layer arising, or watching from a label may become clear.

[0046]As the numerals S showed among drawing 1 and drawing 2, that by which the adhesives layer is laminated by the bottom of the heap can be stuck to the adherend 2 as it is, if it piles up as an adhesives layer touches. When the adhesives layer is tinged with adhesiveness, it is good to prevent covering an adhesive layer with detachability sheets, such as a polyethylene resin film and silicone *****, and sticking to other articles carelessly before attachment.

[0047]As the adhesives layer 3 or adhesives which constitute 3a, polyvinyl acetate resin, polyvinyl alcohol, and a polyvinyl acetal (a polyvinyl formal.) Cyanoacrylate, such as a polyvinyl butyral, polyvinyl alkylether, Polyvinyl chloride, polyamide, poly methyl methacrylate, a nitrocellulose, Cellulose acetate, thermoplastic epoxy, polystyrene, an ethylene-vinyl acetate copolymer, Urea resins, such as an ethylene-ethyl acrylate copolymer, melamine resin, Phenol resin, resorcinol resin, furan resin, an epoxy resin, Unsaturated polyester resin, polyurethane resin, polyimide, polyamidoimide, poly Benz imidazole, polybenzothiazole, etc., Or the crude rubber of a rubber system, reclaimed rubber, a styrene butadiene rubber, An acrylonitrile butadiene rubber, chloroprene rubber, isobutylene isoprene rubber, polysulfide rubber, silicone rubber, polyurethane rubbers, stereoregular rubber (synthetic natural rubber), ethylene propylene rubber, and block copolymer rubbers (SBS, SIS, SEBS,

etc.) can be used.

[0048]When it sticks as a label as mentioned above, is polluted and it tends to wear the outermost surface to expose out. Then, it is hard to pollute the outermost layer, Constituting from resin which is not easily worn out is preferred, and Or triacetyl cellulose resin, Or it is preferred to constitute from thermoplastics, such as polyvinyl chloride resin, to constitute from polyurethane resin or epoxy resin thermosetting resin, or to constitute from an ionizing-radiation-hardening-resin constituent. When light penetrates these resin, it is preferred that it is that from which a phase does not change.

[0049]The bona-fides identification body S of this invention is good to cut beforehand according to the shape of adherend, and the shape of a portion to apply. Or when accompanied by a detachability sheet, by clipping portions other than a detachability sheet, from large size or the rolled-round formal removability hologram pressure sensitive adhesive label 1, each label of predetermined shape can be taken out and can be applied to the object to stick. What is necessary is just to move a punching edge up and down by the stroke which left a part for the thickness of the bona-fides identification body S, in order for punching processing to be able to perform such processing and to pierce only portions other than a detachability sheet.

[0050]It may leave each label of predetermined shape and each class other than the detachability sheet between adjoining labels may be removed. In this case, the perforations which make each label disengageable may be given to the boundary part of a detachability sheet.

[0051]

[Example](Example 1) It was made from the 50-micrometer-thick extension polypropylene resin film, the thermal head was used for this film, character-like heating printing was performed, and the latent image was formed. Then, heat pressing of the hologram type rugged surface which has detailed unevenness of a relief hologram on the surface was applied and carried out to the above-mentioned film in which the latent image was formed, and the uneven shape of the hologram was given. After concavo-convex formation, aluminum was formed in the field of the unevenness by which system nature was carried out so that thickness might be set to 30 nm, and it was considered as the bona-fides identification body.

[0052]As for the bona-fides identification body obtained above, a hologram image appears by the unevenness and the existence of an aluminum reflecting layer on the back which were formed. In this state, although the latent image by having carried out heating printing to the shape of a character previously was not in sight, by watching via a polarizing plate, the latent image produced by heating printing develops, and is in sight.

[0053]

[Effect of the Invention]In the invention of claim 1, the latent image pattern which becomes optical diffraction structure from two or more fields where phase contrast differs was piled up.

Therefore, if it sees from optical diffraction structure, will have a much more complicated structure and counterfeit difficulty will increase, and the fault of the latent image pattern where a latent image is in sight with the angle seen if independent can provide the bona-fides identification body canceled mostly.

In addition to the effect of the invention of claim 1, in the invention of claim 2, it has optical diffraction structure on one side of the latent image layer which has a latent image pattern.

Therefore, a bona-fides identification body also with it each is really indivisible and difficult [to copy and to forge the same thing] and and a difficult alteration of eliminating either can be provided.

In addition to the effect of the invention of claim 2, optical diffraction structure is formed in the back side surface of a latent image layer in the invention of claim 3.

Therefore, the protective effect of optical diffraction structure is large, and the bona-fides identification body which the visibility of optical diffraction structure was [identification body] high and moreover reduced the visibility of the latent image to the degree very much by existence of an optical reflex layer can be provided.

If according to the invention of claim 4 in addition to the effect of the invention of claim 2 optical diffraction structure is formed in the front side of a latent image layer, and a latent image pattern is moreover certainly concealed by existence of an optical reflex layer and the surface is touched with an unjust intention, Optical diffraction structure is damaged and restoration can provide a difficult bona-fides identification body. In the invention of claim 5, in addition to the effect of the invention of claim 1, the layer was divided and a latent image pattern and optical diffraction structure were formed.

Therefore, both can be manufactured stably and a high-precision bona-fides identification body can be provided. In addition to the effect of the invention of claim 5, in the invention of claim 6 or 7, optical diffraction structure is in a lower layer.

Therefore, a bona-fides identification body with a large protective effect of an optical diffraction structure layer

can be provided.

the invention of claim 8 -- claims 1-7 -- in addition to one of effects of the invention, the adhesives layer is laminated by the rear face.

Therefore, a bona-fides identification body promptly applicable to adherend can be provided.

the invention of claim 9 -- claims 1-8 -- in addition to one of effects of the invention, the protective layer is laminated by the front side.

Therefore, the bona-fides identification body which has endurance to surface contamination and wear can be provided.

an information recording medium with information various in the invention of claim 10 -- claims 1-9 -- the bona-fides identification body of one of inventions is laminated.

Therefore, the information recording medium with which the effect of the bona-fides identification body of each invention was considered can be provided.

articles various in the invention of claim 11, especially high ticket items -- claims 1-9 -- the bona-fides identification body of one of inventions is laminated.

Therefore, the article in which the effect of the bona-fides identification body of each invention was considered can be provided.

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1]A bona-fides identification body, wherein it consisted of two or more fields where phase contrast differs and a latent image pattern which can be recognized visually, and optical diffraction structure have piled up via a polarizing plate.

[Claim 2]The bona-fides identification body according to claim 1 having piled up by forming said optical diffraction structure in one side of a latent image layer in which said latent image pattern and said optical diffraction structure have said latent image pattern.

[Claim 3]The bona-fides identification body according to claim 2, wherein said optical diffraction structure is formed in a back side surface of said latent image layer and an optical reflex layer is laminated further.

[Claim 4]The bona-fides identification body according to claim 2, wherein said optical diffraction structure is formed in the front side of said latent image layer and an optical reflex layer is further laminated by back side surface of said latent image layer.

[Claim 5]The bona-fides identification body according to claim 1 having piled up by laminating an optical diffraction structure layer characterized by comprising the following.

A latent image layer in which said latent image pattern and said optical diffraction structure have said latent image pattern.

Said optical diffraction structure.

[Claim 6]The bona-fides identification body according to claim 5, wherein said latent image layer, said optical diffraction structure layer which has said optical diffraction structure in a back side surface, and an optical reflex layer are laminated by this order from the front side.

[Claim 7]The bona-fides identification body according to claim 5, wherein said latent image layer, an optical reflex layer, and said optical diffraction structure layer that has said optical diffraction structure in the front side are laminated by this order from the front side.

[Claim 8]claims 1-7, wherein an adhesives layer is laminated by back side surface -- either -- a bona-fides identification body of a statement.

[Claim 9]claims 1-8, wherein a protective layer is laminated by the front side -- either -- a bona-fides identification body of a statement.

[Claim 10]a claim -- an identifiable information recording medium of bona fides having a bona-fides identification body of a statement one to 9 either in some information-recording-medium substrates with which information was recorded.

[Claim 11]a claim -- an identifiable article of bona fides characterized by having a bona-fides identification body of a statement on a part of surface of an article one to 9 either.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a sectional view of the bona-fides identification body which has a latent image and optical diffraction structure in the same sheet.

[Drawing 2]A latent image and optical diffraction structure are the sectional views of the bona-fides identification body in another layer.

[Drawing 3]It is a figure showing how to check the latent image of a bona-fides identification body.

[Description of Notations]

2 Adherend

3 Adhesives layer

4 Optical diffraction structure

5 Latent image layer (P_5 (L); a latent image, a P_5 (D); visual image)

6 An optical reflex layer

7 Polarizing plate

[Translation done.]

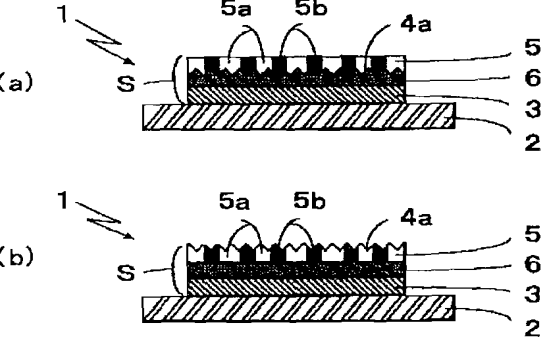
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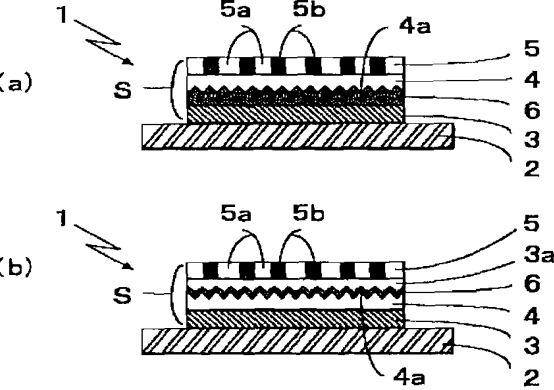
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DRAWINGS

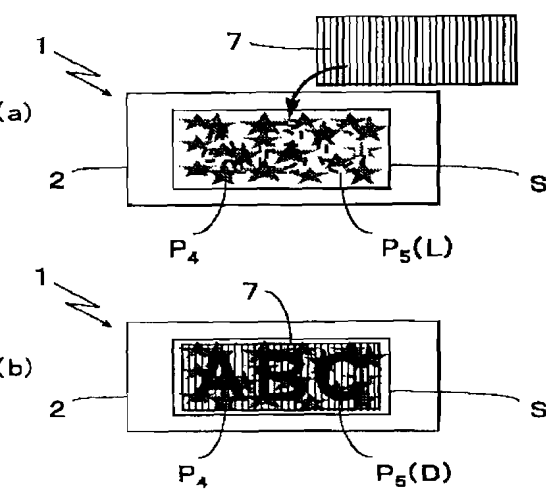
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Translation done.]